The PESA Secura family of products has one main feature: Military-grade security. Secura units can carry HDMI 2.0 4K video, Audio, and Ancillary Data. PESA's A/V over IP solutions can carry all these critical media signals using Arista network COTS (Commercial Off-The-Shelf) enterprise switches. The PESA Secura A/V over IP uses FIPS 140-2 Level 3 encryption making it the kind of case-hardened security our Military customers expect. It's no wonder why more Military, Government and Corporations choose PESA for critical Command and Control environments.

FEAT URES

- AES 256 encryption with static key
- 1 GB/s payloads using JPEG light compression for extremely low latency (< 15ms)
- PESA's exclusive Secura Control Suite for IP configuration/control, endpoint management, and virtual matrix KVM routing
- HDMI audio including Dolby, AES67, and others
- KVM control using PESA's suite of router control panels or most third party controllers including Crestron/AMX
- Video scaling

TYPICAL A/V OVER IP SYSTEM

[Diagram of typical A/V over IP system with labels for HDMI, IP, Thin client Source 1, Thin client Source 2, etc.]
Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AV Connectivity</strong></td>
<td>HDMI 2.0, compliant with HDCP 1.4/2.2</td>
</tr>
<tr>
<td><strong>Video format</strong></td>
<td>All resolutions and frame rates up to 4096x2160 at 60fps 8-bit, 10-bit and 12-bit, 4:4:4, 4:2:2 and 4:2:0 HDR10 and HLG</td>
</tr>
<tr>
<td><strong>Max video format</strong></td>
<td>4K60 4:4:4</td>
</tr>
<tr>
<td><strong>Video codec</strong></td>
<td>JPEG</td>
</tr>
<tr>
<td><strong>Video processing</strong></td>
<td>Upscaler/downscaler at receive side Cropping, padding, logo and text insertion</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td>Up to 8 channels, 44 sampling rates including High Bit-Rate Audio (HBR) LPCM, DTS, and Dolby formats (incl. Atmos) External analog audio embedding/de-embedding AES567</td>
</tr>
<tr>
<td><strong>Latency</strong></td>
<td>15 ms end-to-end (encoder + decoder)</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>FIPS 140-2 Level 3 Encryption</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>Forward Error Correction (FEC) and Quality of Service (QoS)</td>
</tr>
<tr>
<td><strong>Clock Synchronization</strong></td>
<td>Precision Time Protocol (PTP) IEEE 1588-2008, slave/master</td>
</tr>
<tr>
<td><strong>AV transport protocols</strong></td>
<td>IP (unicast/multicast), UDP, RTP, RTCP, SAP/SDP, SMPTE ST 2110</td>
</tr>
<tr>
<td><strong>Network protocols</strong></td>
<td>DHCP, mDNS, IGMP, TCP/IP, ARP</td>
</tr>
</tbody>
</table>

Configuration

- Network-based: Web-based configuration manager (GUI) JSON API over WebSocket, Secure Remote System console
- COM port: Command line interface
- Upgrade: Firmware field upgradable

Interfaces

- **Audio/Video**
  - HDMI 2.0 Input (encoder only)
  - HDMI 2.0 Output (decoder only)
  - 3.5mm jack (TRS) analog audio output (encoder only), and output (decoder only)

- **Communication**
  - 10G Ethernet, KS, Serial RS-232

- **Others**
  - I2C, SPI, GPIO for additional interfaces (LED, IR, button, display...)

Other Specifications

- **Temperature**
  - Operating: 0° C to +55° C

- **Dimensions**
  - 200 x 116 x 23 mm
  - (7.9 x 4.6 x 0.9 in)

- **Power supply**
  - 12 V DC – Power connector

- **Power over Ethernet**
  - PoE+ (IEEE 802.3at)

- **Power consumption**
  - 15 W typical

Flexible network routing for video & audio

Secura AV over IP modules are configured as a paired transmitter/receiver set, and any module can be configured as a transmitter or receiver using Secura Control software.

- Each transmitter encrypts video data from the host for secure, encoded broadcast over an Ethernet infrastructure.
- Secure video data is received by a Secura AV over IP receiver module, which decrypts data broadcast by the transmitter module and delivers output video to the destination monitor or work station.
- Encrypted data is routed between Secura AV over IP modules through a common COTS IP switcher or router device. Only a properly configured and identified Secura AV over IP receiver module can decrypt the IP data stream broadcast by a Secura AV over IP transmitter.

Secure and reliable audio & video transmission

Video data between the transmitter and receiver is protected with NSA compliant, AES 256 encryption in order to guarantee confidentiality of the streamed content.

Analog audio embedding/de-embedding

Embed an external analog audio to replace original HDMI audio, if desired. Output audio over HDMI video or de-embed HDMI audio to a rear panel audio connector.

Power over Ethernet

Using Secura AV over IP’s Power-over-Ethernet (PoE+) feature, networking communication and operating power can be provided over a single Cat_6 Ethernet cable. Secura KVM is compliant with PoE+ standard IEEE 802.3at. An external power supply can also be added for power redundancy.

AES 256 encryption with dynamic keys available soon

ABOUT PESA

PESA has been a leading provider of secure professional-grade audio and video products for over 45 years. Video Distribution Systems (VDS), Routers, Signal processing devices, and Control & Management systems have all been a part of the complete PESA system portfolio. PESA continues to lead in developing innovative IP media solutions with the new Secura® brand of Media Management and secure Endpoints. Secura products ensure military-grade protection for mission critical media signals for military, government, corporate and broadcast environments. PESA proudly supports our many customers with a 24/7/365 round the clock technical support team. PESA is located in Huntsville, Alabama with regional sales offices throughout North America, China, Europe and the Middle East.

Learn more about PESA on our website at http://www.pesa.com and follow us on Twitter: @PESA_ONLINE and LinkedIn: PESA.